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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,479	04/20/2006	Hiroyuki Fukuhara	2006_0594A	6122
52349 7590 11/07/2008 WENDEROTH, LIND & PONACK L.L.P. 2033 K. STREET, NW SUITE 800 WASHINGTON, DC 20006				
EXAMINER YANG, JIE				
ART UNIT 1793		PAPER NUMBER		
MAIL DATE 11/07/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/576,479

**Applicant(s)**

FUKUHARA ET AL.

**Examiner**

JIE YANG

**Art Unit**

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This is to acknowledge of the receipt of "applicant argument/remarks" filed on 8/12/2008. Claim 9 has been amended from original claim and claim 9 is pending in application.

#### ***Status of the Precious Rejection***

The previous rejection of claim 9 under 35 U.S.C. 102(b) as anticipated by Hirose Masahito (JP6299284, thereafter JP'284) has been withdrawn in view of the amendment and remarks filed on 0/12/2008.

#### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 9 is rejected under 35 U.S.C. 102(b) as anticipated by John L. Ellis et al (US 3,368,882, thereafter, US'882) and further evidenced by Mototaka (JP 2001342981, thereafter JP'981).

US'882 is applied to the claim 9 for the same reason as stated in the previous rejection dated 5/13/2008.

Still regarding claim 9, US'882 teaches austenitizing the sintered part at temperature about 980°C followed by quenching and nitriding (Col.4, lines 21-55 of US'882), which is a similar process of quenching treatment on a sintered material and subsequently conducting a nitriding treatment as recited in the

instant invention (Page 3, lines 17-23 of the instant specification). As pointed out in the previous office action marked 5/13/2008, US'882 teaches a surface hardened metal article with a composition of any steel or alloy containing nitride-forming element, for example Cr (Col.3, line 56 to Col 4, line 2 of US'882). Since US'882 teaches performing the similar quenching and nitriding processes on the similar sintered Fe-Cr contained material for the same surface improvement application as recited in the instant invention, the claimed features of mixture structure of an Fe-Cr-N compound layer, an Fe-Cr-N diffused layer, and a matrix formed in the surface of the sintered and nitrided material as recited in the instant claim would be inherently obtained. MPEP 2112 III&IV. This position is further evidenced by JP'981. JP'981 teaches quenching, tempering and nitriding to obtain Fe-N layer, nitride-diffused layer on the alloy surface (Abstract, Fig.3-8, claim3 of JP'981), which read on the structure as recited in the instant claim.

Regarding the newly added limitation of finish-machining after nitriding treatment, this is a process limitation in the product-by-process claim. US'882 teaches that following the nitriding, the part is lapped and ready for use (Col.4, line 56

to Col.5, line 2 of US'882). Because the lapping is one kind of machining operation, the newly added limitation would be anticipated by US'882.

### ***Response to Arguments***

Regarding the rejection of claim 9 under 35 U.S.C. 102(b) as anticipated by John L. Ellis et al (US 3,368,882, thereafter, US'882), applicant's arguments filed on 8/12/2008 have been fully considered but they are not persuasive. Regarding the arguments which are related to the amended feature in the instant claims, The Examiner's position is stated as above.

In the remark, the Applicant argues:

1) The nitriding treatment of the sintered member in US'882 does not result in a wear resistant element that discloses or suggests the mixed structure limitation recited in present claim 9 because the nitriding treatment of US'882 causes the surface of the sintered member to contain only an Fe-Cr-N compound layer, and does not create a FE-Cr-N diffused layer;

2) US'882 will not create a surface that is entirely covered with grains or protrusions of 0.1-0.5  $\mu\text{m}$  as presently claimed;

In response,

Regarding the arguments 1 and 2, the Examiner disagrees with the Applicants' arguments. As discussed above and pointed out in the previous office action marked 5/13/2008, US'882 teaches performing the similar quenching and nitriding processes on

the similar sintered Fe-Cr contained material for the same surface improvement application as recited in the instant invention, the claimed features of a mixture structure of an Fe-Cr-N compound layer, an Fe-Cr-N diffused layer, and a matrix formed in the surface of the sintered and nitrided material with certain size grains or protrusions as recited in the instant claim would be inherently obtained. MPEP 2112 III&IV. This position is further evidenced by JP'981 (Abstract, Fig.3-8, claim 3 of JP'981), which teaches the formation of Fe-N layer, nitride-diffused layer on the alloy surface by quenching, tempering and nitriding processes. Once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the Examiner presents evidence or reasoning tending to show inherency, the burden shifts to the applicant to show an unobvious difference. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his (or her) claimed product. Whether the rejection is based on inherency under 35 U.S.C. 102, on prima facie obviousness under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same... [Foot-note omitted]." The burden of proof is similar to that required with respect to product-by-process claims. In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (Quoting In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)), see MPEP 2112. In re Schreiber, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed.Cir.1997).

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jie Yang whose telephone number is 571-2701884. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-2721244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JY

/Roy King/  
Supervisory Patent Examiner, Art Unit 1793